

• C o u n t e r p o i s e •

The Amateur Radio Club of El Cajon

Volume XLVIII

November 2008

Number 11



Amateur Radio Club of El Cajon meets every 2nd Thursday at 7:00 pm at the First Lutheran Church of El Cajon. The address is 867 South Lincoln Ave. Next meeting: November 13, 2008 7:00 pm

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All Official written communication is to be submitted to:

A.R.C.E.C. P.O. Box 50, El Cajon, CA 92022

The Counterpoise is a publication of the Amateur Radio Club of El Cajon (ARCEC). It is published once monthly and contributions are accepted from officers and members of the club. We also encourage input from members of the Amateur Radio Club of El Cajon. Opinions expressed are solely that of the author and do not necessarily reflect the opinions of the Amateur Radio Club of El Cajon (ARCEC). Articles may be submitted either by e-mail or mail to the editor.

Paul Rios at:

WA6BGScounterpoise@cox.net or by post
1237 Victor Ave #4, El Cajon, CA 92021

The Deadline is Sunday after the General Meeting.

Amateur Radio Club of El Cajon

Web Site: <http://www.wa6bgs.org>

Counterpoise E-Mail address

WA6BGScounterpoise@cox.net

This is what it
Is all About!



Next Meeting
Nominations Committee Report
Home Brew Contest
Ham of the Year Nominations

2008 Officers

President	KC6QLS	Paul Rios	593-9445
Vice-President	KO4QT	Steve Weed	733-2320
Secretary	N6ERD	Dan Severance	449-8526
Treasurer	KG6JCW	Mike "Stogie" Panger	263-4439

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Public Service	N6NKJ	Rich Beisigl	444-5465
	KF6KE	Richard West	462-2771

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Bylaws	N6OPH	Mike Maston	296-9067
Club Attire	K6PKS	Paul Schmidt	733-2284
Counterpoise Editor	KC6QLS	Paul Rios	593-9445
Education	N6OPH	Mike Maston	296-9067
Elmer	WA6L	John Graf	368-7413
EOC H2O District	N6NKJ	Rich Beisigl	444-5465
Estate Sales	N6JOJ	Tom Myrick	449-3547
Field Day	KO4QT	Steve Weed	733-2320
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Welcome	KI6EEL	Bridget Rios	
Social Chair	KI6JUD	Linda Weed	971-1535

Staff and Writers

KC6QLS	Paul	Editor
KO4QT	Steve	Vice President
N6ERD	Dan	Meeting Minutes
KI6FIH	Tassy	HAM Spot Light
AE6CQ	Michael	WAMO
W5COM	Tom & Lisie	Jokes
N6NKJ	Rich	Amateur Radio at Large
WA6L	John	Down Below in EC
WA6MHZ	Pat	Crest Radio Museum
KI6EEL	Bridget	Photos

SANTEE DRIVE-IN SWAP MEET

10990 Woodside Ave., North
FOR INFORMATION, CALL 449-SWAP
Ham Radio, Computers, Electronics
ACRES & ACRES OF BARGAINS
1st & 3rd Saturday of the Month
GATES OPEN 6:30 AM

From The President

Paul KC6QLS



I would like to start by thanking Marty Woll, N6VI for stopping by with that dynamite presentation; makes you want to go to some far away island and work some DX.

We are working with the City of El Cajon, and it is in the planning stage. As soon as we have more information we will inform all the members. If everything works out, El Cajon Amateur Radio Club will be Radio Active in the City of El Cajon.

On November 13th, the same day as our general membership meeting, there will be a county wide drill. We will be posted at Parade Dam and CAL Fire. Parade Dam called us and asked us to join them and set up an Amateur Radio Station. Rich, N6NKJ and Mike KG6TDP will be the operators at Parade Dam. Steve, KO4QT and I will be the operators at Cal Fire. We may need a relay station if we should op to not use the club's repeater. We decided to make this a real case scenario, like in 2003 when we lost the repeater in the fire.

KO4QT, KG6TDP, N6NTX and KC6QLS did some testing one day to see if the MOC, County EOC, CAL Fire, and Parade Dam EOC could talk with each other without a repeater. Due to the hills in the county, we will need a relay station. If you live on a hill between all the stations, we could use your help for the drill as well in a real emergency.

We do make a difference in our local community and more volunteer are needed.

The next November's meeting is Home Brew, and I'm looking forward to seeing all the projects. Remember, we added a "KIT" category this year.

Be Radio Active, be a Ham!

73

Paul Rios, KC6QLS
President

Amateur Radio Club of El Cajon

General Membership Meeting
9 October 2008



KC6QLS announced that there would be an antenna removal at John Cordel's estate Saturday Oct. 11th at 9am. John's daughter said if we take the antenna down (tri-bander) she'll donate it to the club and we need it to replace the one we are using now.

Presentation today will be about 1.5 hours – 45 minutes and then a break, followed by the second half.

Visitors were introduced and recognized.

The treasurer's report was read and accepted as read.

WAMO awards – Axel was given a 000 QSO card.

Steve reminded everyone that next month is Homebrew, including kit-building. Also, the nominating committee will be calling you to see if you want to run for President, Vice President, Secretary or Treasurer.

Marty Wall, N6VI gave a great talk on "Being DX - Tales of a contest expeditioner" detailing the DXpeditions he's been on for contesting.

Nominating committee elections were held and the result was Ann Chairperson, Linda, Floyd and Gary.

Dec 16th 7pm at Hometown Buffet in El Cajon will be our Christmas party.

Next month will be nominating Ham of the Year – if you nominate someone, please have a write-up detailing the reasons you think they should be Ham of the Year.

At the Fire Station 6 open House – 24 members showed up and signed in, a few others showed up as well. An older lady showed up and wanted to make a key. Also the TS-2000 was broadcasting over one of the PA speakers which had an extra long wire.

Gary wrote up an aftermath report from setting up the tower at the fire station – what worked, what didn't work (the beam).

El Cajon EOC – we are waiting for a meeting (original one was cancelled). We work with Cal Fire and Red Flag Patrol – it would be nice to find out if there is something we can do more locally via the East County Amateur Radio Response Team.

Paul was approached after the fire station open house by the Methodist Church in El Cajon. They are having an October Festival on the 25th (Saturday) and they want us to do wooden keys (they sent out 10,000 invitations). We'll also need a crew to put up the tower – Steve will be calling the people trained for the tower. It will be at 1465 East Madison Ave., El Cajon.

Nominating committee will be calling for people who want to run for office.

Next Saturday the 11th the USS Midway will be on the air, information on freq. and when will be on SDGARES.net – click on the calendar on the 11th and the information will be there.

Next month's meeting will be the Homebrew Contest and this year there is a kit category. In addition the results from the nominating committee will be announced.

Two weeks ago the trailer we used for the Mother Goose Parade was stolen. We found another from someone who was a member of the Six Shooters. We need volunteers for the Mother Goose Parade to help build the float, sit on the trailer and operate the radio (HF, 000 WAMO on 2M).

W5COM gave a demonstration to get people fired up for the Home Brew Contest – a 10M antenna about 2' across (painted ECARC green of course!).

TDP – net manager – 18-25 on various nets – Axel is running the new 7pm Monday night donut net.

Larry – SANDARC – North Shores ARC officially disbanded. Steve Early reported on the AZ ham convention – not many vendors there. Inland Empire (ORNG) plans to have a convention in 2009 but they may not have enough support so it is currently in jeopardy.

There is a LOGO contest for our 2010 Convention – submit your Logo design – contact Mike, N6OPH. They are still looking for location for bringing back the Ham Radio Roundup. Oct. 16-19 there will be a Ham Radio Convention in Tijuana. Steve requested someone volunteer for position of Education Chairman due to his time constraints as Section Manager. Paul talked about the display at Serra Mesa Library. VEC Program is looking for more Volunteer Examiners – especially those in the Extra Class.

Next Weekend (week from tonight) there is the Mexican Ham Radio Convention in Tijuana – Hotel Rio Tijuana in the Government District. Next week we'll have a meeting of the Convection 2010 organizing committee – they will choose a theme and present the theme to the community to help people in designing logos. AZ convention was lightly attended – 500-600 attended. The Riverside group did not commit to a Convention. Carl Gardinas, WU6D Orange County Section Manager has since taken charge and does plan to put on a convention – unclear where the affiliation will come from. The North Park testing site especially needs volunteer examiners.

The Library Display at the Serra Mesa and Mira Mesa libraries is done; it's now moved for the next two months to the El Cajon Library. In March it will move to the Mission Valley library.

Membership Report \$186.50 in dues collected for 2009. There are 58 Total, 6 visitors, 52 members in attendance tonight. Any dues received for renewing your 2009 dues before December 1st makes you eligible for the membership drive prize to be awarded at the Christmas party (up to 10% of the dues collected).

Education Report two more times for the Extra Class – will do again next year in the fall.



Continued on Page 11

From The Vice President KO4QT Steve



First off, I'd like to thank Marty N6VI for talking to us at last months meeting about his past DX Expeditions. I'm curious to hear if anyone in the Club was able to contact Marty or anyone else in his DX Expedition in Honduras (station call HQ3Z) on the weekend of October 11th and 12th? I listened around from 80 thru 20 meters CW, Phone, and PSK31 but didn't hear their station.

I'm not sure when the Counterpoise is going to be published, so, I'd also like to thank all of you who participated in, or are going to be participating in the Fall Festival at the Methodist Church in El Cajon on Oct 25th.

Our November meeting will be our annual Club "Homebrew Contest". The four categories for the contest are Novice, Advanced, Antenna's and Kit. Contest rules can be found at the Club website: www.wa6bgs.org, click on the "WA6BGS" button, then click on "Homebrew Rules".

Our 2009 "membership drive" has been going on since September 1st. A good number of you have renewed your membership and we thank you for that. As you know, we're a pretty active Club, and being so, we have to depend on membership dues to cover our expenses. If we're to continue holding events like "Kid's Best" at the fair, "Field Day", our "Club Picnic", the "Mother Goose Parade", and our "Christmas Party", it is imperative that dues be paid by December 31st so these events can be planned and budgeted. If you want to have a chance at our "membership drive" cash prize, renew your membership by the end of November. A drawing for the prize will be held at our Club Christmas Party on December 16th at the Hometown Buffet in El Cajon.

Some of you may be wondering how my health is since my surgery and Chemotherapy. I'm happy to tell you that on November 17th, the doctor took a look inside my bladder and found NO tumors. Although for another four and a half years I can't say I've beat the cancer, it looks pretty good so far.

73's and I'll see you at the meeting

Steve KO4QT

WA6BGS Nets

Mike Oberbauer:	KG6TDP	Net Manger
Mike Oberbauer:	KG6TDP	Net Controller
Frito	N6WKB	Wide Open Nets
Axel	KI6RRN	Donut Net

WAMO NETS:

Wednesday and Saturday Nights
8:00 pm local time 7:30 "Checkins"

Tuesday Night Rag Chew net:
8:00 pm

Nets held on club repeaters

WA6BGS Repeaters

RX 147.420 (146.475) 107.2 PL

RX 224.080 – 107.2 PL

RX 445.900 – 107.2 PL

Don't miss it. All members welcome.

New Donut Net

Time: 7:00 p.m.
Day: Monday Night
Mode: FM
Frequency: Club Repeater System

This is an open net and all are invited. Early check-ins will be taken. Bring your Donuts. GOT MILK?

WAMO means Worked All Members Only. The purpose of WAMO is to encourage people to people communication between club members and to publicize the name of the club among fellow amateurs.

Calendar of Events November 2008

Nov.	1:	Swap Meet, Santee Drive In, 6:30 am
Nov.	1:	T-Hunt, Grossmont College lot, 6:00 pm
Nov.	7:	Board Meeting, 7:00 pm
Nov.	13:	DRILL!
Nov.	13:	General Meeting, 7:00 pm
Nov.	13:	Home Brew Contest
Nov.	15:	Swap Meet, Santee Drive In, 6:30 am
Nov.	15:	T-Hunt, Grossmont College lot, 6:00 pm
Nov.	18:	Counterpoise Dead Line

Upcoming Event Dates

Nov.	23:	Mother Goose Parade
Dec.	11:	ARCEC Elections
Dec.	16:	Christmas Dinner Party

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(858) 560-4900 or 1-800-854-6046

The Counterpoise is also online in FULL COLOR. Check it out and the club's website at: www.wa6bgs.org

Get your advanced copy by e-mail. I will send it out in .PDF format the night it goes to print. E-mail me and let me know that you would like a copy. Size of file may be up to 1.5 mb at times.

Change of Address

Moving?

Do not miss an issue of the Counterpoise. Fill out the Change of address form below.

Call _____ WAMO# _____

Name _____

Address _____

City _____ State _____ Zip _____

New Address:

Address _____

City _____ State _____ Zip _____

Send to Membership Chairperson:

A.R.C.E.C./ P.O. Box 50, El Cajon, CA 92022

ARCEC Membership Application

Please print clearly, complete all info and return to Membership Chair with your payment:

() Individual Membership \$18.00

() Family Membership \$30.00

Name: _____

Class of License: _____

Other Family Members and Calls: _____

Address: _____

Call: _____ WAMO #: _____

Birthday: _____ Phone _____

Email address: _____

Check One: () New Member () Renewal

() Returning Member

*If you are a returning member, you will keep your original WAMO #. _____

Check One: I want to receive the Counterpoise Newsletter by: () Mail () Email () Website

Check One: I give my permission to publish my info on the Club Roster () Yes () No

If no, state exactly what information you do not want published: _____

Check One: ARRL Member () Yes () No

ARES Member () Yes () No

RACES Member () Yes () No

Would you like to be in the Counterpoise Spotlight? () Yes () No

Would you like to be a member of The East County Response Team? () Yes () No

Mail with payment to:

Membership Chair, ARCEC, P.O. Box 50
El Cajon, CA 92022

Computer Roster Available

Want the roster sent to you via e-mail? Send an e-mail to Ann Rios KC6TBG, and she will send you the database back as an attachment. She uses Excel, but may be able to convert to various formats if asked. Send your request to 619-593-9445 or KC6TBG@cox.net

FUN PAGE

Birthday

November 5	KG6WLS	Mike	Brass
November 6	K6TDS	Jack	Higginson
November 8	KI6GRN	Dave	Ward
November 11	KG6IMC J	oe	DeMello
November 13	WB6EWT	Miriam	DeMers
November 13	K6FT	Fredric	Taylor
November 14	KA6NFX	Ron	Jordan
November 17	WB6WSN	Ed	Price
November 17	KM6EK	Joe	Utschig
November 19	KE6TPL	Jack	Carter
November 21	NN6K	Les	Nuhn
November 23	AC6LP	Marc	Northcutt
November 24	KC6NSI	Bobbie	Hoolihan
November 26	KQ6EN	Jim	Davies
November 29	WB6RSG	Tom	Tennyson
November 30	AF6BC	Floyd	Lang
November		Evanna	Miller



Word Search

T J H O M E B R E W Q U F J T V
A K X G S Q H V D Y U S H S I S
E S E C R E T A R Y S V R C K C
H D S W J Y K W X H O W E C H O
F G O E K W G U Q G U P B D T M
B J L X M D J V F Z R R M J A P
U W D H F B F K J E C E M D E O
I S E Q Y G L M S W E S M Z H N
L Y R U F D V I D H S I D W X E
D C W X W V D X N O K D R S H N
I N K Y K E F E Z G W E A Q J T
N E G F N X W R D H V N O U W F
G U U T U B E G O G D T B O K H
W Q F J Y G F K S F V O T E F W
U E L E C T I O N S U W I R E D
T R E A S U R E R X Q Y K Q L S
J F Y G U Q H J K S F H W U H J

- | | |
|--------------------------------------|--|
| <input type="checkbox"/> ASSEMBLING | <input type="checkbox"/> MIXER |
| <input type="checkbox"/> BOARDMEMBER | <input type="checkbox"/> PRESIDENT |
| <input type="checkbox"/> BUILDING | <input type="checkbox"/> SECRETARY |
| <input type="checkbox"/> COMPONENT | <input type="checkbox"/> SOLDER |
| <input type="checkbox"/> ELECTIONS | <input type="checkbox"/> SOURCE |
| <input type="checkbox"/> FREQUENCY | <input type="checkbox"/> TREASURER |
| <input type="checkbox"/> HEAT | <input type="checkbox"/> VICEPRESIDENT |
| <input type="checkbox"/> HEATHKIT | <input type="checkbox"/> TUBE |
| <input type="checkbox"/> HOMEBREW | <input type="checkbox"/> VOTE |
| <input type="checkbox"/> KIT | <input type="checkbox"/> WIRE |

Brain Thinkers

3= B. M., S.H.T.R.! 3 Blind Mice, See How They Run!

5= T. on a F. 5 Toes on a Foot

11= P. on a F. T. 11 Players on a Football Team

----- This Months -----

4= T. FDR E. P.

10= A. in the B. of R.

21= G. S. for the P.

Last Months Word Search

A C C O M P L I S H E D L W Y T
C K O W T W K P O W Q W U D Q O
T W U P U O X C A L F I R E W E
I Y N L E R W L K R H P A P W E
V S T T P N D A H Y U F D L T W
E A E K L T H C R S W R D I O Y W
W N R X W J S Q Q D D X O Y P T
R N P U S F U M P S K P D E O A
U E O Y Q H D M P S K P D E O A
K T I H U L X U W U E H W N O I
R N S R P K T N T Y L D X W E
V A E U R F D I R E C T I O N E
L P Y K H G U T U X K S C L E R
Q U W T N D P Y H L R D O K K L
H T R A I N I N G F X S N X Q L Y
X Y T H L T P X R H L P F Q U L S
H E I L K Y K L Q U Y T X H T K

ASK AN ELMER

The question this month is, "HF/VHF/UHF - Help Me - What antenna is best suited for me?" Before I start to answer this question, you have to ask and answer some questions. Do you lease or own your vehicle? Do you want a permanent mount? This may mean you have to DRILL a HOLE! Or do you wish to have a mount that you can take off if and when you trade in your vehicle? Do you have single band radio or do you have a dual band? Also, how many antenna ports does the radio have? Lastly, how many radios are you going to install now and down the road? You have to have a plan if you are going to install more than one antenna.

The first scenario is you lease your vehicle and you will have to pay royally when you trade it in if you put a HOLE in it. You also have a nice dual band radio with 2M and 70CM. First, we will talk about different ways to mount an antenna. You can use a Glass Mount. This mount is just what it says. You mount it right to a stationary window and it sticks the first time you install it; no second try so get it right the first time. The gain runs about 2.8 db "3db of gain is equal to twice your power." Next, you can use a Magnetic Mount. This is the easiest one to install. You find a spot on the vehicle and run the coax to the radio, *TUNE* the antenna with a SWR meter or an antenna analyzer like the MFJ-269, and you're on the Air! Then there is some kind of a clamp on like the Diamond K-400 series. This little unit clamps to a door, hatch, trunk lid or even the hood.

Ok, now you found the right mount for your vehicle, and now you have to find the right antenna. This is a dual band radio. Let's say you went with the Diamond K-400 series with a NMO type antenna mount. Oh boy, now comes the fun. What antenna do you pick the Diamond, Larson or Comet? You have to look at some factors. The more gain you have the better. Wave length 1/2, 5/8, Full wave? Look at where you are going to install it. Do you have room to park it under the carport? A 5/8 wave antenna is longer than a 1/2 wave. If you lease your vehicle or it is a small car and you will mount it on the trunk, you will want to go with the most gain with the Diamond SG7900ANMO Gain 5.0 db on 2M and 7.6 db on 70CM and overall length of 62". Do not forget to *TUNE* it!

Now for the HOLE! You own your vehicle and you have two radios. One unit is a dual band and you are going to use the same Diamond SG7900ANMO, but you are going to DRILL the HOLE! First, you have to get a 3/4 Hole Saw like the ANTENEX HS34 3/4 and you can find it on eBay

for about \$25.00. The other radio is a single band Six meter rig and you will use a Hamstick 9106. This has a 3/8 by 24 thread like the old CB antennas. This unit will be mounted to the side of the vehicle using the Hustler C-32 similar to the ones used on the CHP cars. Make sure you run the coax without any loops or kinks in it. If you have a loop in it "the radio sees it as a coil" and you may have a hard time tuning the antenna.

All right, now you are a real Ham and you are not scared of DRILLING any HOLES or welding. This SUV has a IC-706 MIIG "HF - VHF - UHF" with two antenna ports, FT-8900 Four band 2M, 70CM, 6M and even 10M "All FM" and for fun you will throw in a scanner(s) to hear all the action in town as you drive. First, let's address the 706; one port is the VHF and UHF so you need a good dual band antenna with the most gain you can find and install it in its location on the VHF and UHF port. On the HF side of the 706 you will use a High Sierra Screw Driver and tune it with a LDG AT-7000 Auto Tuner. You will have to weld a mount to the back bumper of the SUV. The FT-8900, you will have to mount the antenna to the hood due to the weight of the antenna you will be using. If you drill a hole in the roof, over time the hole will get bigger or the metal might crack under the weight of the antenna and the wind load. You will use the Diamond CR8900A and the Diamond K-400 mount. For the scanners you will DRILL and install two Larson NMO-B mounts and two NMO 150/450/800 Scanner Antennas as they have the best gain on 800 Mhz and 150 Mhz. When you install all of the antennas, you have to keep in mind what bands you are going to be using and try to keep the antennas apart at weird wave lengths. If you don't, your other antennas will act as a reflector and send the RF in one direction not that omnidirectional radiation pattern. I heard somewhere that the more antennas you have on your vehicle, your MPG goes down. I thought the more antennas you have, the more gain you have? Or is that the Amplifier?

In closing, you have to look at your pocket book and you have to get the best antenna with the most gain for your vehicle. You have more options if you own your vehicle and you don't mind DRILLING. Please keep in mind always Measure three times, and right before you drill, check it again. Once the hole is drilled, you have to put the antenna in it. Have a plan, use paper and pen. Think about it for a day or so. Look down the road; are you



Continued on Page 11

The Editor's
Corner
KC6QLS Paul



Editor's Corner

The stories are coming in and the phone is ringing with ideas on what to put in the Counterpoise. It's really good to see so many members and non-members like to sit down and read the Counterpoise cover to cover. Ask an Elmer is a hit! We have about three more questions to go. If you would like to have a question answered, please send it in. The HT question so far got the most mail. It seems that everyone has a HT question.

Chicken Noodle Soup was the next hit. The mail says KEEP THEM COMING, a good read and funny from time to time. Sometimes it makes you stop and think.

Paul, KC6QLS

Public Relations

Open House at Fire Station 6 was great. We had over 24 members stop by. Larry AE6AV did his bit talking with the young kids over the radio. We had over 60 wooden CW keys handed out and made. We even had one lady stop by and make one too.

Part two of the CAL Fire Red Flag Patrol is in the November 2008 QST. The story is what happens on a patrol. After it was written, Roxanne sent me an update about the arrest of an individual. That really added depth to the story.

Also, SANDARC has an Amateur Radio display at the El Cajon Library. Stop by and check it out.

Paul, KC6QLS



Volunteers Needed

Up Coming Events

Nov. 23: Mother Goose Parade

E-Mail

Address for the Counterpoise. Please submit all *Counterpoise* Mail to:

WA6BGScounterpoise@cox.net

Prize Table Needs Help

Thank you for your contributions to the Prize Table! We still need your Support and Help or it may just end up a thing of the past. Please contact: Floyd Lang AF6BC at 303-6711.

Things to keep in mind

Get on the El Cajon ARC Reflector

To sign up visit:

<http://groups.yahoo.com/group/elcajonarc/>

You will get the latest news about The Club and things going on in the Ham world.

Quote of the Month

"No man can lose what he never had."

- ibid. 5

JOKE

I hope you saw the unedited release, before the press got it.

On one of the last Presidential debates campaigns, Elmer "The Ham Radio Operator" asked, "I can't figure out if you're a Flip-Flop or an Astable Multivibrator Politician?" The Presidential Candidate replied with a very puzzled look, "I'm neither, I suffer from bistable state of mind." Then Joe "The Plumber" was asked some questions.

Only a true Ham will get the Joke!

Crest Radio Museum

Pat Bunsold, WA6MHZ



Homebrew Month!!!!

Since November is Homebrew Month, we will visit a radio built decades ago by K6YUK, of Temple City, CA. Dave Marlow is a Silent Key now, but his legend will live on here in the Crest Radio Museum with the spectacular Receiver he built. There is no date, but judging from the tubes and other parts, this seems to be in the late 1950s/early 1960s era. Imagine the hours it took to build this!!! Months for sure, maybe years! Every part of it is hand made. All the coils, the chassis, even the dial is hand lettered for the frequencies it covered. Many parts were probably scrounged from old TVs and other radios to make this magnificent radio. I haven't fired this up yet, as it would take considerable preparations to bring it up safely. It appears to have some sort of crystal phasing affair for better CW operation. This is definitely pre-SSB, though it could tune them in with careful adjustments. The size is comparable to a National NC-88, though it has a lot more parts inside. It is fairly heavy and the rust is starting to take over the front panel and other exposed parts. This radio would be a SURE WINNER had we had a Homebrew contest back in 1960!!

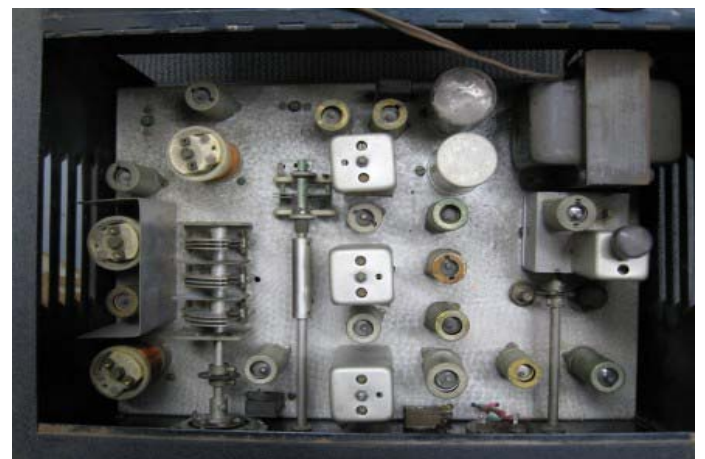
Another radio I just picked up is a quite rare Ameco R5A. This is actually a transistorized radio, but from the late 60s or early 70s. Ameco made this as a Kit, and it sported a real PC Board! This was an EBAY Special, advertised as non-working and it sure enough didn't work. I was able to find a schematic on the Web and started troubleshooting it once it arrived. Audio came through when I touched my finger to the Audio stages (you can get away with that on a Transistor set, but sure not recommended on a Tube radio!) Lots of HUM was heard, so the audio stages worked. Next, I applied a signal of the IF frequency to the Detector and it heard it just fine. But advancing back to the 1st IF, the signal went away. Sure enough, the transistor for that stage was dead. It was a 2N3855, quite rare, but I

tossed in a 2N2222 and it worked fine. Those 2222's seem to work for wherever you need a small signal NPN. For a PNP you use a 2N2907. The stages were carefully aligned and peaked, and the radio showed some drift and instability. Well, this is an Economy SWL radio, but it is poorer than most of the rest I have restored. That's OK, it is going on the shelf anyway. Otherwise, it is in wonderful condition.

Hope for a great turnout at the Homebrew contest. I have a few toys I built in the times I didn't have a Boat Anchor to restore this year. 2 big Swapmeets coming up in November. The SCARS (Southern California Antique Radio Society) Flea market up in Carlsbad where the Windmill is, and the regular TRW swapmeet right after Thanksgiving. Hoping to find lots of Junk radios at those, as if I needed more! The wife is already hopping mad, but she will get over it.

73

—
Pat Bunsold WA6MHZ
Curator
Crest Radio Museum



Down Below in El Cajon Life Below 50 MHz

John Graf, WA6L



Feeding Antennas 1, 2, 3 . . .

I am certainly not an antenna expert. Rather, I am a student of antennas. It is a subject that interests me, and one that you can spend an entire lifetime learning about.

In this column I want to share some thoughts on feeding antennas. That may seem simple enough – you hook one end of your coax to the transmitter and the other end to the antenna and you are ready to go. Oh, if life were only that simple!

As the title of this column might indicate, we are going to talk about feeding an antenna with 1, 2, and 3 wires. Using this model helped me visualize what is going on in the feed line, and I hope it will help you. In some ways this model will over-simplify what is a very complicated subject, but I don't think it leaves out anything important.

One wire:

Let's imagine one long wire coming from your transmitter, exiting your window, and ending at the top of a tree in your yard. Is this a feed line or is this an antenna? Well, it is both. In this case, your feed line is radiating along with your antenna. In fact, there is really no point at which your feed line ends and your antenna begins. It is all one long radiating element.

Does this long feed-line/antenna match the 50-ohm impedance of your transceiver? It's doubtful. The impedance of this setup will depend entirely on the length of the wire and the frequency that you are operating on. You would definitely need a good antenna tuner. But this will work. And the point is that your feed line is radiating RF power along with your antenna. We will come back to this concept in a little while.

Two wire:

Now let's add a wire. This time you have two wires coming from your transmitter. One is tied to the transmitter output and the other is tied to your transmitter ground. At the other end, these two wires are tied to your antenna. It could be dipole, vertical, or any other type of antenna. To keep the two wires from tangling as they go from your house to the antenna, we will use insulated spacers between the two wires every few inches. It looks like a tiny ladder with the little rungs of the ladder between the two wires.

In fact, that is what this is called – “ladder line.” Wow – what an improvement! This additional wire gives us some pretty significant advantages. For one, we have a feed line with constant impedance. The actual value depends on the type of ladder line, but it is usually either 300 ohm or 450 ohm. That will stay the same regardless of the length of wire, and it makes it very easy to match to the 50 ohm transceiver. A simple balun or tuner will do it. Secondly, unless you are feeding a very poorly designed antenna you will NOT be radiating from the feed line. All your power goes to the antenna and that is a good thing. Finally, ladder line has extremely low loss compared to other feed lines. All your power goes to the antenna, assuming again that the antenna is properly designed. Ladder line does have a few disadvantages. It can be affected by weather, it can get tangled, and it is more difficult (though not that much) to get it out your window or through a wall. Also, you should not run it along the ground and you should keep it at least a few inches away from any large metal objects.

Three wires:

Here we are talking about coaxial cable. Coaxial cable is some pretty neat stuff. It's easy to work with, easy to route through walls, and it can be run along the ground – or even underneath the ground. It has constant 50-ohm impedance that is easy to match to the transceiver. But here is the rub. I know that you probably thought that coax was two wires – a center conductor and a shield. But that is really not the case. You probably remember reading about “skin effect” when you were studying for your Ham license. Basically, RF energy does not travel through the center of a conductor. It tends to travel on the outer edge of the conductor or on its “skin.” The higher the frequency, the more skin effect there is. For HF and VHF, almost all the RF energy is traveling through a very thin, tiny layer of the conductor. So with coax, there is a very strange and unwanted phenomenon due to the skin effect. You have RF traveling on the center conductor. You have RF traveling on the inner “skin” of the shield. You also have RF traveling on the outer “skin” of the shield, giving you the equivalent of three conductors – center, inside braid, and outside braid! This can be a very important consideration when putting up an antenna. Current that you are trying to feed into your antenna (and ultimately to another Ham) can “leak” into that third conductor – the outside of your shield. When this happens, your coax is going to radiate some of your power, much like our example of the single-wire feed line. Unlike the single-wire example, this is NOT a good thing! How much of this power goes back into the feed line and gets radiated out depends on both the antenna and the length of your coax. It is



Continued on Page 11

Down Below *Continued*

very difficult to design an antenna system that will not leak this power, and it is a common problem even in the best commercial beams. So, is there any good news about coax? Yes, the "third conductor problem" is an easy one to fix, and if there is any point to this column, it is that you should learn this tip and apply it to all your antenna installations. The trick is to build and install a "choke" between the far end of your coaxial feed line and your antenna. It is something that is easy to do and best of all it will improve virtually every antenna system and will NEVER make an antenna system worse. You can buy a choke (called RF choke, choke balun, or common-current choke) but it is easy enough to build. It consists of 6 to 8 turns of coaxial cable wound on a plastic form of approximately 6-inches in diameter. The diameter is not critical and you can use PVC, a plastic coffee can, or anything around 4-6 inches. The number of turns is not critical either and generally more is better. 8 is good, 10 is better. As the name implies, this simple device "chokes" the RF that is trying to leak back into the outer shield of your coax. It is just an inductor that creates impedance for the RF. You can build the choke into the far end of your feed line and just have one connector. Or you can build it separately out of a hunk of coax and splice it into the far end of your feed line with barrel connectors. Do it and you will be glad you did.

In summary, I hope you have some new insight into how your RF energy travels from your transmitter to your antenna. And I hope that you will be able to use this information to improve your station. At HF frequencies, ladder line is always a good choice if you can use it. It has less loss and fewer problems than coaxial cable. But it can be difficult to route and maintain. For many of us, coax is the only alternative and it can certainly be a good alternative. Let's just remember about the third conductor that comes with every coaxial feed line and how to avoid the loss that it creates. Have fun, remember that Ham Radio is a contact sport. Get out there and make some contacts!

73,
John, WA6L



Ask an Elmer *Continued*

going to get into HF? Where is the big HF antenna going? Do you have enough space between the antennas? One final thought, if your SUV is tall, you might have to lay your antennas back a little to clear over hangs. I saw this on a Law Enforcement SUV.

Ok, it's your call. Where do you fit in? Please let me know if this helps you or if you have more questions. Next month's question, "Now that I got my vehicle set-up, how about the QTH?"

73
Elmer A. Ham

Please submit your thoughts to WA6BGScouterpoise@cox.net and the Elmer's will answer with your feedback. Also, please send in any question that you might have.

Information and Resources:
HRO "The Candy Store" <http://www.hamradio.com/>
And Tom KM6K
QRZ <http://www.qrz.com/site.html>

Rich – Golden Guardian earthquake drill is coming – Padre Dam's requirements for us using their site for our repeater is that we participate in any drills they do. Our involvement is backup communications – they have 800Mhz and UHF, but we need to be there for backup.

Roxanne said that if winds kick up we'll be called for Red Flag Patrol, and the weather report says wind is coming so likely Saturday or Sunday there will be a Red Flag Patrol. He's also talked to Roxanne about getting shirts with an emblem so people in Red Flag Patrol can be recognized.

We also have East County Amateur Radio Response Team (ECARC) – not to replace ARES but as a supplemental emergency response team.

In Nov. QST magazine there is an article about what happened at the last Red Flag Patrol – check it out.

Health and Welfare – Stogie is healing and doing well (was out and about a week after surgery).

Floyd – Prize table. TNC, power supply, scanner frequency books, motor, etc.

Volunteers are always needed, just ask how you can help!
Meeting Adjourned.

Respectfully Submitted
Secretary for N6ERD

Amateur Radio At Large

From Rich N6NKJ



It's Counterpoise time again. Is it just me or are the months flying by now? It seems to me that I just sent in my article to Paul but, of course, it was for last month's Counterpoise.

By the time you get this month's Counterpoise, we will have had two events where our "new" communications tower trailer was put on display. The first one was at the El Cajon Fire Department's Open House held on October 4th and the second was on October 25th from 1pm to 4pm at the Fall Festival, which was at the United Methodist Church on Madison Avenue in El Cajon. Speaking of the open house, there sure were a lot of people who came to the El Cajon Fire Departments Open House even though the Miramar Air Show was held the same day. At the ARCEC booth, we had a lot of kids and their parents stop by and make the wooden keys. I believe 60 keys were assembled and given to the kids. Larry, AE6AV, did a great job of talking to kids who overcame mike fright. They had a look of wonderment on their faces after Larry finished talking to them. Pat Bunsold, WA6MHZ, got on the HF rig and worked a "QSO" party. When Pat was informed he could be heard over one of the sound systems, his comment was, "oh well, too bad." and he went right on making contacts. Also, Axel, KI6RRN was there, AND YES there were donuts, so of course the "donut" kid had to have one or two donuts. If you have donuts, Axel will come. And do not forget his Donut net on Monday nights at 7p.m. on our club repeater.

What a great turn out we had for the October meeting to hear Marty Wall, N6VI, ARRL Southwestern Vice Director talk on his DXing adventures. I sure would have liked to operate from the site in Hawaii. What an antenna farm!

As all of you know, our fall fire season has arrived, and so far, we have dodged the bullet. But it isn't over yet, and for those of us in the VIP Red Flag Patrol, we should be ready to go on patrol at any time. Roxanne Provaznik told Paul Rios, KC6QLS,

Steve Weed, KO4QT, and me, Rich Beisigl, N6NKJ, that when the winds start to blow, we will be called out to patrol the back country. And this is where you, the members of this club, and anyone who lives in the County of San Diego can help. We need more new or former members to help us. Yes, we will always call on our friends in A.R.E.S., REACT, and R.A.C.E.S. to help us in time of need. But many of the people in all the groups I have listed still have jobs and cannot come out and help us during the week. I know there are a lot of you retired folks who could help us, so PLEASE won't you join the VIP Red Flag Patrol and help keep our back country and your neighbors safe?

On November 13th, there will be an earthquake drill that our club members will participate in. We will be providing communications for the Padre Dam Water District. Since Padre Dam allows us to keep our repeaters on one of their sites, we agreed to help them with any drill or emergency communications they may need. Again, we need people to help man this site too. As you can see, there are many areas where you, the members, can be of help. So come on and join up.

Well, that is all for this month, but let us not forget those who serve our country and are in harm's way; the brave men and women of our armed forces. When you see someone in uniform, thank them for their service.

Until next month 73's and 88's
Rich, N6NKJ



WA6MHZ's new Ameco R5A

Membership Report

Ann KC6TBG



Welcome New Members:

John Sanders KI6ONC WAMO #1769
Betty Sanders WB6PEC WAMO #1770

The following badges are ready for pick up at the Next Meeting:

N6FRX KF6AHX KI6KTZ
KI6SYO KG6HBX KI6NHK
KI6UYA K6JHD

ARCEC 2009 Membership Drive

September 1, 2008 to December 1, 2008

Our 2009 Membership Drive is in progress. Dues may be paid at the November meeting or by mail and the Membership Drive ends December 1. In order to be eligible to enter the membership drawing to be held at the Christmas Party, your individual and/or family membership dues for the year 2009 must be received and/or post marked on or before December 1, 2008 and dues for 2008 must be paid by current members. You will receive one ticket from the membership chair at the meeting when you pay your 2009 membership dues or at the Christmas Party if you pay by mail. Only one ticket will be given per individual and/or family membership. Even if you renew your 2008 membership when you pay your 2009 membership dues, you will only receive one ticket for the 2009 membership drawing. Please see the ARCEC website for more details on the 2009 Membership Drive. The drawing prize as well as the 2009 Budget will be based on the dues collected during this drive, so please renew early!

73, Ann, KC6TBG

For new members who join during the year, the dues for the year they join will be prorated through December 31st of the year they join, and the next years dues will be due on December 31st of the year they join. The Dues Payment Schedule will be as follows:

Individual Dues Membership:

\$18.00 per year (\$1.50 per month):

January	\$ 18.00	July	\$ 9.00
February	\$ 16.50	August	\$ 7.50
March	\$ 15.00	September	\$ 6.00
April	\$ 13.50	October	\$ 4.50
May	\$ 12.00	November	\$ 3.00
June	\$ 10.50	December	\$ 1.50 *

***plus \$18.00 for the following year**

Family Dues Membership:

\$30.00 per year (\$2.50 per month):

January	\$ 30.00	July	\$ 15.00
February	\$ 27.50	August	\$ 12.50
March	\$ 25.00	September	\$ 10.00
April	\$ 22.50	October	\$ 7.50
May	\$ 20.00	November	\$ 5.00
June	\$ 17.50	December	\$ 2.50 *

***plus \$30.00 for the following year**

Ann, KC6TBG
Membership Chair

Please Note:

The Club Roaster will be made available Febuary 1, 2009. Anyone that wishes their information not to be published, please contact Ann ASAP at KC6TBG@cox.net



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Open House Photos



More Photos



Marty Woll, N6VI

**At the Meeting
Talking about DXing
and how much fun it is.**

**He has soom good
ideas we can use
for the next Field Day.**



Home Brew Rules

ATTENTION: REVISED HOME BREW RULES FOR NOVEMBER 2008 CONTEST

1. All home brew projects must be original works.
2. The Home Brew Contest will consist of four categories: Novice, Advanced, Antenna and Kit.
3. Once an item is submitted in a Home Brew Contest, it may not be re-entered in any other category or in any subsequent year.
4. Novice class would be reserved for beginners who are constructing their first project.
5. Advanced class would be for those who are experienced in the art of home brewing. It would be as complex as practicable.
6. The antenna class would consist of a transmitting antenna for any amateur frequency.
7. The kit class would be a ready made kit and will be judged based on assembly, soldering, and over all kit building ability.
8. All home brew projects must be explained by the builder and demonstrated before the general membership. All projects must function as described.
9. Each Home Brew Class will consist of first, second and third places. The winner of each class would be awarded an appropriate plaque.
10. The judging would be accomplished by three volunteers selected by the club president. Any licensed amateur radio operator and club member is illegible to be a judge. The decision of the judges is final. No sour grapes please.
11. The purpose of the Home Brew Contest is to demonstrate just one of the many capabilities of the amateur radio community.

Build and have Fun!!



Amateur Radio Club of El Cajon
P.O. Box 50
El Cajon, CA 92022



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Is your membership ready to expire?

Membership Drive continues in November!
Early Bird Prize at the Christmas Dinner Party.
Present Member dues must be paid up before 2009
dues are paid. See Memberhip Report for details.

For Ham Radio Classes Tech

Please Contact:
Mike Maston
N6OPH
(619) 296-9067

Please Visit Our Website at
www.WA6BGS.org



VEC Testing Sites

1 st Saturday:	El Cajon 10:00 am First Lutheran Church of EC 867 South Lincoln Ave.
2 nd Saturday:	Carlsbad 9:30 am Carlsbad Safety Center Orion Way Carlsbad
3 rd Saturday:	North Park 10:00 am North Park Recreation Center 4044 Idaho Street San Diego
4 th Saturday:	Chula Vista 8:30 am Fire Station #7 1640 Santa Venetia Chula Vista
5 th or last Saturday:	Escondido 9:00 am LDS Church 1917 East Washington St.

To make advance reservations or to find out more info
from the site captain, please call 465-EXAM (3926)